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(Translator's Note: Insert the figure on p. 1.)

(54) (Title of Invention) Display Control Device and Display Control Method

(57) (Summary)
(Purpose)

To make it possible to display the HTML (Hyper Text Markup Language) data in the television receiver.

(Construction)

The resolution of the monitor in the television receiver, for example, is detected by a detection circuit 6. In a thinning circuit, the video data constituting the HTML data is thinned on the basis of the resolution of the monitor 9 that has been detected by the detection circuit 6.

(Scope of Claims for Patent)

(Claim 1)

A display control device for control by displaying a prescribed data in a display means which is capable of displaying images of the television broadcast, characterized in that it comprises a detection means for the detection of the resolution degree of the said display means and a thinning means for thinning the said prescribed data in conformity with the said resolution degree that has been detected by the said display means.

(Claim 2)

A display control device described in Claim 1, characterized in that the said prescribed data is described in HTML (Hyper Text Markup Language).

(Claim 3)

A display control device described in Claim 1, characterized in that there is further provided a rearrangement means for rearranging the position of an icon as indicated by the said display means at the time when the said icon is contained in the said prescribed data.

(Claim 4)

A display control device described in Claim 3, characterized in that the said rearrangement means rearranges the said icon in a lattice shape.

(Claim 5)

A display control device described in Claim 1, characterized in that

there is further provided a selective means for selecting an item to be displayed by the said display means at the time when the said item is contained in the said prescribed data.

(Claim 6)

A display control means for causing a display means capable of displaying an image based on television broadcast to display a prescribed data, characterized in that the resolution degree of the said display means is detected and the said prescribed data is thinned in conformity with its resolution degree.

(Detailed Explanation of the Invention)

(0001)

(Field of Industrial Utilization)

This invention relates to a display control device and a display control method. It relates, in particular, to a display control device and a display control means for detecting the resolution degree of the television receiver, etc. that displays images based on television broadcast, for example, and thinning the data described with the HTML, etc. as supplied from the Internet, etc. in conformity with the said resolution degree, thereby making it possible to display the said data on the television receiver.

(0002)

(Technology According to Prior Art)

An increasing number of users subscribe to the Internet nowadays. The Internet is connected to a server which is called WWW (World-wide Web) server and the subscribers can gain access to the various data that are transmitted from this WWW server.

(0003)

In the data that are offered from the WWW server, there are those which have been described in HTML (Hyper Text Markup Language) which is suitably used in the description of the hyper text, to cite an example. According to the data that have been described in HTML (which will hereafter be referred to as the HTML data), it becomes easily possible to link a display part

which will become the so-called button such as the icon, for instance (the button information), with the detailed information corresponding to the said display part, with a result that the user can look at the information corresponding to the said button information by operating the said button information (by such means as a clock).

(0004)

(Problem to be Solved by the Invention)

In view of the fact that a display device having a resolution degree of approximately 640 x 80 dots is necessary for the display of the HTML data, however, it has been difficult to display the HTML data as obtained from the WWW server in the television receiver for the display of the images of the television broadcast based on the NTSC system or the PAL system, for example.

Under the circumstances, there has been developed a method whereby the HTML data is so processed and transmitted as will be able to be displayed on the television receiver in the WWW server. However, it is difficult to display the HTML data thereby on a display which is for the computer.

(0005)

In addition, the icon that has been displayed by the HTML data in the past is not made to be displayed at a prescribed location as a rule, with a result that, in the case where detailed information is desired, it is necessary to operate such a pointing device as a mouse, for example, and shift the cursor accurately to the position of the icon and such an operation requires a certain degree of skill.

(0006)

Moreover, there has been a problem in that all of the information that has been dynamically linked is displayed according to the HTML data in the past, with a result that

a certain length of time is required for searching for the desired information. In other words, the items of the information alone are displayed on the first screen and, the detailed information is displayed through the operation of the icon that corresponds to the desired item. In view of the fact that the number of items that are initially displayed is large, however, it requires a considerable time to seek the desired item.

(0007)

This invention was culminated in view of the circumstances described above. It makes it possible to display the HTML data, etc. in the television receiver that displays the images based on the television broadcast, to cite an example.

(0008)

(Means for Solving the Problem)

The display control device according to this invention is a display control device for control so as to display a prescribed data in a display means which can display images based on the television broadcast and it comprises a detection means for the detection of a display means and a thinning means for thinning a prescribed data in conformity with the resolution degree that has been detected by a detecting means.

(0009)

In this display control device, the prescribed data can be set as those described in HTML. At the time when an icon is included in the prescribed data, it may have a rearrangement means for the rearrangement of the position at the time when the icon is displayed in the display means. The icon can be rearranged like a lattice in the

rearrangement means. At the time when an item of its contents is included in the prescribed data, moreover, it is further possible to provide for a selective means for the selection of the item to be displayed in the display means.

(0010)

The display control method according to this invention is a display method for use at the time when a prescribed data is to be displayed in a display means which is capable of displaying images based on the television broadcast. It is characterized in that the resolution degree of the display means is detected and the prescribed data are thinned in conformity with the said resolution degree.

(0011)

(Function)

In the display control device according to this invention, the detection means is so adapted as to detect the resolution degree of the display means and the thinning means is so adapted as to thin the prescribed data in conformity with the resolution degree that has been detected by the detecting means.

(0012)

The display control method according to this invention is made to detect the resolution degree of the display means and thin the prescribed data in accordance with its resolution degree.

(0013)

(Examples)

Some examples of this invention will be explained below. Prior to that, the features of this invention will

be described below by adding corresponding examples (one example) in the parentheses after each means for the purpose of clarifying the correlationship between each means of the invention as described in the Scope of Claims for Patent and the following examples.

(0014)

In other words, the display control device described in Claim 1 is a display control device for control so as to display a prescribed data on a display means (such as the monitor 9 shown in Figure 1) which is capable of displaying images of the television broadcast. It is characterized in that it comprises a detection means for detecting the resolution degree of the display means (such as the detection circuit 6 shown in Figure 1) and a thinning means for thinning the prescribed data in conformity with the resolution degree as detected by the detection means (such as the thinning circuit 4 shown in Figure 1).

(0015)

The display control device as described in Claim 3 is characterized in that it is further provided with a rearrangement means for the rearrangement of the position of the icon to be displayed in the display means at the time when the icon is included in the prescribed data (such as a layout correcting part 22 shown in Figure 2).

(0016)

The display control device described in Claim 5 is characterized in that it is further provided with a selective means for the selection of an item in the display means at the time when the item of its contents is

contained in the prescribed data (such as an item selecting part 24 shown in Figure 2).

(0017)

The display control method described in Claim 6 is a display control method used at the time when a prescribed data is to be displayed on a display means capable of displaying images of the television broadcast (such as the monitor 9 shown in Figure 9); it is characterized in that it detects the resolution degree of the display means and thins the prescribed data in conformity with the said resolution degree.

(0018)

It is mentioned in this connection that these descriptions do not signify the restrictions whereby these means are limited to what have been described above.

(0019)

Figure 1 shows the structure of an example of a reproducing device incorporating this invention. This reproducing device is adapted to reproduce the data recorded on such recording medium 1 capable of reproducing what has been recorded as a photomagnetic disc (such as the MD (Trade Mark) for the recording and reproduction of data) such as the MD data (Mini Disc Data) (Trade Mark) and the magnetic tape, etc. and output the images based on the television broadcast such as in the television receiver on the monitor 9 for display.

(0020)

In other words, the HTML data as obtained through the Internet is recorded on the recording medium 1 by means of a terminal 10 such as the computer, to cite an example. This recording medium 1 can be attached to or

detached from the reproducing device. When the HTML data that has been recorded on the recording medium 1 is to be viewed, the user sets the recording medium 1 on the reproducing device and operates the operating part 7 in such a manner as to reproduce the recording medium 1. The operating signal corresponding to this operation (which will hereafter be suitably referred to as the reproduction operation signal) is outputted at the control circuit 8 and the control circuit 8, upon receipt of the reproducing operation signal, controls the reproducing part 2 composed of a pickup, etc. in such a way as to reproduce the HTML data from the recording medium 1. As a consequence, the HTML data that has been recorded is reproduced at the reproducing part 2 to be outputted at the data processing circuit 3.

(0021)

The HTML data is supplied from the reproducing part 2 to the data processing circuit 3. In addition, the set information is supplied there from the control circuit 8 and the monitor attribute information is supplied there from the detection circuit 6. The set information is the information pertaining to the item whose display the user desires among the items of its contents included in the HTML data and it is inputted as the user operates the operating part 7.

In addition, the monitor attribute information is the information concerning its display ability including the resolution degree of the monitor 9. It is detected by the detecting circuit 6.

This monitor attribute information is supplied not only to the data processing circuit 3 but also to the

thinning circuit 4. It is true that a supply of the monitor attribute information to the thinning circuit 4 is carried out of the detection circuit 6 in Figure 1. In actuality, however, it is carried out through the data processing circuit 3 as is shown in Figure 2 which will be described later.

(0022)

The data processing circuit 3 is so adapted as to carry out the prescribed data processing on the HTML data from the reproducing part 2 on the basis of the set information and the monitor attribute information. In other words, the HTML data contains the video data to be displayed (including the video data to be the icon) and text data and the information pertaining to the items of these contents (which will hereafter be referred to as the item information) (such as the title "Weather Forecast" in the case where the video data and the text data pertain to the weather, for instance) and the information pertaining to the layout used at the time when the video data, text data and item information are displayed.

The data processing circuit 3 separates the HTML data into such data as have been described above and, on the basis of the set information, deletes those other than what is desired by the user and, on the basis of the monitor attribute information, corrects the layout information in such a manner as to suit the display ability of the monitor 9.

In addition, the data processing circuit 3 corrects the layout information in such a fashion that the icon (video data) that is contained in the HTML information may be arranged in the monitor 9 like an lattice.

(0023)

The item information from which all except those desired by the user have been deleted (which will hereafter be suitably termed the selected item information) and the corrected layout information (which will hereafter be simply referred to as the corrected layout information) are outputted from the data processing circuit 3 to the display circuit 5. In addition, the video data and the text data are outputted as they are from the data processing circuit 3.

(0024)

Meanwhile, the detection circuit 6 causes the switch SW1 or the switch SW2 to select the terminal a1 or a2 at the time when the monitor 9 is a display for the computer having pixels of more than 640 x 480 dots, for instance, or, in other words, at the time when it has a resolution degree which is sufficient to display the video data and the text data that are contained in the HTML data, with a result that the video data and the text data are outputted to the display circuit 5 without going through the thinning circuit 4, because of the same.

(0025)

In addition, the detection circuit 6 causes the switch SW1 or the switch SW2 to select either terminal b1 or terminal b2 at the time when the monitor 9 happens to be a television receiver that displays the images of the television broadcast based on the NTSC system or the PAL system, for example, or at the time when it has a resolution degree which is sufficient to display the video data and text data that are included in the HTML data, with a result that the video data and the text

data are supplied to the thinning circuit 4.

(0026)

The thinning circuit 4 is made to convert the video data and text data into such data as can be displayed on the monitor 9 on the basis of the monitor attribute information. In other words, the thinning circuit 4 thins the video data and contracts the image that is constituted by its video data.

In addition, the thinning circuit 4 converts the text data in such a way that the characters (such as letters and numbers) which are constituted by the text data may be reduced. The video data after thinning and the text data after conversion are outputted to the display circuit 5 through the switch SW 2.

(0027)

The display circuit 5 prepares a display image from the video data and text data in accordance with the corrected layout information and the item selective information. The display image is displayed as it is displayed on the monitor 9.

(0028)

On the monitor 9, therefore, only the items that are desired by the user among the items that are included in the HTML data are displayed in accordance with the set information. Accordingly, the user can find the desired item right away.

(0029)

In addition, the icons are arranged in the form of a lattice (rearrangement) for the selection of the items on the right side of the items.

(0030)

At this juncture, the control circuit 8 controls the display circuit 5 and causes the cursor 50 (refer to Figure 3) for the selection of an icon to be displayed on the monitor 9. This cursor 50 may be moved through the operation of its operating part 7 and the user moves the cursor 50 to the icon where the number attached to the desired item is displayed (such as the icon showing numeral 3 in the case where the desired item happens to be the Weather Forecast).

(0031)

Since the icons are arranged in the form of a lattice (rearrangement) as described above, the user may select the desired icon easily by moving the cursor up and down. In other words, the cursor 50 can easily be moved to the position of the desired icon not by the mouse but by the cross cursor key, etc., to cite an example.

(0032)

When the icon is selected, the control circuit 8 reproduces the icon (item) and the data where a link is provided (detailed information) at the reproducing part 2 and displays same on the monitor 9 in the same manner as described above.

(0033)

As the video data are thinned and the text data are converted in accordance with the resolution degree of the monitor 9 as described above, it becomes possible to display the HTML data not by the high resolution display for the computers but by the television receiver or the monitor attached to the car navigation system.

In the above case, moreover, the thinning of the video data and the conversion of the text data are carried out in connection with the display of the HTML data, with a consequence that the HTML data that has been recorded on the recording medium 1 can be used as it is in the computer. In other words, the HTML data that is recorded in the recording medium 1 can be displayed by the television receiver or the display for the computer in a mutually exchangeable way.

(0034)

Next, it can be said that the data processing circuit 3, the thinning circuit 4 and the display circuit 5 as shown in Figure 1 constitute a viewer for display on the monitor 9. This viewer is actually constituted by software, for example. Its detailed block diagram is shown in Figure 2.

As is shown in Figure 2, the data processing circuit 3 comprises an input information deciding part 21, a layout correcting part 22, a monitor attribute information memory part 23, an item selecting part 24 and a set information memory part 25, with the thinning circuit 4 being composed of a video thinning part 31 and a text producing part 32. In addition, the display circuit 5 is constituted by a display image preparation part 41.

(0035)

At the data processing circuit 3, the HTML data that is supplied from the reproducing part 2 is separated into a video data, text data, layout information and item information at the input information deciding part 21. The video data and text data are outputted to the thinning circuit 4 and the layout information and

item information are supplied to the layout correcting part 22 and the item selecting part 24 respectively.

(0036)

At the monitor attribute information memory part 23 or the set information memory part 25 of the data processing circuit 3, moreover, the monitor attribute information and the set information which are supplied from the detection circuit 6 or the control circuit 8 are memorized as described above,

(0037)

Upon receipt of the layout information, the layout correcting part 22 reads the monitor attribute information from the monitor attribute information memory part 23 and corrects the layout information on the basis of the said monitor attribute information.

In addition, the layout correcting part 22 further corrects the layout information in such a way that the icons that are contained in the HTML data may be rearranged like a lattice and outputs the corrected layout information that is obtained as a result at the display image preparation part 41.

(0038)

Upon receipt of the item information, the item selecting part 24 reads the set information out of the set information memory part 25 and deletes those items other than the items corresponding to the set information. The item that has been left as a result of this is outputted at the display image preparation part 41 as the item selective information.

(0039)

At the thinning circuit 4, on the other hand, the

video data or text data that has been outputted from the data processing circuit 3 is supplied to the image thinning part 31 or the text producing part 32 respectively. The video thinning part 31, upon receiving a video data, reads the monitor attribute information out of the monitor attribute information memory part 23 and thins the video data on the basis of the said monitor attribute information (the resolution degree, in particular).

Upon receipt of the text data, further, the text producing part 32 also reads the monitor attribute information out of the monitor attribute information memory part 23 and converts the text data on the basis of the said monitor attribute information. The video data after thinning and the text data after conversion are outputted to the display image preparation part 41.

(0040)

The display image preparation part 41 selects the video data or the text data which is required for the display of items corresponding to the item selective information, links the object which is constituted by such a video data or text data (such as an icon, for example) with the corrected layout information, thereby preparing a display image with various objects being arranged in conformity with the corrected layout information. This display image is outputted to the monitor 9 for display.

(0041)

Figure 3 shows the display state of the monitor 9. As is shown in said figure, the icons are displayed in a lattice-like arrangement. Even when the device for moving the cursor 50 may be a cursor key 61 as is consti-

tuted by an up key 61U, a down key D, a left key L or a right key R which is operated at the time when the cursor 50 is moved up and down or right and left as is shown in Figure 4, it becomes possible for the user to easily move the cursor 50 to the position of the desired icon.

(0042)

In the case where the operating part 7 is a remote commander which is capable of remotely controlling the reproduction device, even if the push button for inputting the telephone numbers or a numerical button for the selection of channels may be adopted as the buttons for moving the cursor 50 in the event that, at some future time, the said remote commander is used along with the remote commander for the telephone or the monitor 9, it becomes easily possible for the user to move the cursor 50 to the position of the desired icon.

(0043)

When the arrow-marked icon 51 or 52 has been operated in Figure 3, moreover, the display part which is located on the left side is scrolled in the up direction or the down direction. In the case where the FAX icon 53 has been operated, moreover, if the reproducing device shown in Figure 1 is connected to the facsimile, the hard copy of the display screen of the monitor 9 (such a screen as has been shown in Figure 3) is outputted, provided that the reproducing device shown in Figure 1 is connected to the facsimile.

(0044)

Figure 5 shows the structure of an example of a broadcast system incorporating this invention. At the

broadcast station, the broadcast of the HTML data is carried out in the same way as the character multiplex broadcast along with the television broadcast based on the ground waves, for example.

At the broadcast station, the video signal of a program to be broadcasted as the television broadcast is inputted. To a mixer 72, moreover, not only the video signal but also the HTML data that has been received through the Internet is also inputted by the server 71. At mixer 72, the HTML data is superimposed during the blanking period of the video signal.

In other words, the HTML data is superimposed in the 16th H (line) and 21st H (provided that it is an odd-number fields; the 279th and 284th H in the case of an even-number field) in the mixer 72.

(0045)

A video signal with the superimposition of the HTML data is outputted to the modulator 73. To the modulator 73, not only the video signal but also the sound accompanying the said video signal (the sound of the program) is supplied. At the modulator 73, the video signal and the audio signal are multiplexed (frequency multiplexing), followed by modulation. The modulated signal that is obtained as a result of the above is supplied to a transmitter 74, where, after such necessary treatments as the amplification treatment, etc. has been carried out, same is transmitted from the antenna 75 as a television broadcast signal.

(0046)

This television broadcast signal is received by the antenna 81 on the user side and the signal received

(television broadcast signal) is supplied to a receiving device 82. At the receiving device 82, the receiving signal as supplied from the antenna 81 is demodulated and the HTML data that is contained in the blanking period is taken out of the demodulated signal (video signal). This HTML data is recorded on, say, a photo-magnetic disc (such as the MD data, etc.) or some other recording medium 84 which is capable of recording and reproducing. It is mentioned in this connection that the recording medium 84 is detachably installed in a slot (which is not shown in the drawing) on the receiving device 82.

(0047)

After the HTML data has been recorded on the recording medium 84, same is mounted on a reproducing device 83 which is formed in the same manner as the reproducing device shown in Figure 1, with the HTML data being reproduced. Thus, said HTML data can be displayed on a monitor composed of a television receiver, for instance, for viewing purposes.

(0048)

On the side of the broadcast station, moreover, it is desirable to transmit the HTML data during the time when no normal character multiplex broadcast, etc. is being conducted (such as the time band between two A.M. and six P.M.). In the receiving device 82, same is received and recorded on the recording medium 84 during such a time band. The receiving device 82 and the reproducing device 85 shown in Figure 5 can be constructed integrally.

(0049)

Next, Figure 6 shows an example of the structure of a receiving device 82. The television broadcast signal

that has been received by the antenna 81 is supplied to a tuner 91. To the tuner 91, not only the television broadcast signal but also the control signal for directing the channel for demodulation from the control circuit 93 are supplied. At the tuner 91, those of the channel corresponding to the control signal from the control circuit 93 in the television broadcast signals that have been received from the control circuit 93 are demodulated. The video signal among the demodulated signals that are obtained as a result is outputted to the data decoder 95.

It is mentioned in this connection that the channel on which the control circuit 93 causes the demodulation on the part of the tuner 91 can be modified by operating the operating part 94.

(0050)

At a data decoder 95, the HTML data is taken out of the video signal. In other words, the data decoder 95 is constituted by a data slicer and some other block like the decoder for the ordinary character multiplex broadcast. There, a horizontal scanning line where the HTML data is superimposed is extracted from the video signal and the HTML data is decoded, to be outputted to the data storage controller 96. Upon receipt of the HTML data, the data storage controller 96 records same on the recording medium 84.

(0051)

After the HTML data has been recorded on a recording medium in the manner described above, the HTML data is reproduced by the reproducing device 85, with a result that it becomes possible to display the said HTML data

on the monitor 83 for viewing.

It becomes also possible to view the HTML data by setting the recording medium 84 in a computer which is not shown in the drawing for replay.

(0052)

Even when it becomes highly necessary to view the HTML data on a monitor capable of displaying the television broadcast such as the television receiver, therefore, there will be no need for the preparers of the HTML data to prepare two different kinds of HTML data, one for the computer display and the other for the television receiver.

(0053)

The viewer shown in Figure 2 is not restricted by the hardware. In other words, the viewer shown in Figure 2 can be used in all kinds of hardware. In addition to what has been described above, the viewer shown in Figure 2 can be used in the case where the HTML data is displayed in a narrow display area of the high resolution monitor, for example.

(0054)

Moreover, in a viewer shown in Figure 2, the function of selectively displaying only the items desired by the user can be applied to the software for the automatic reading of such information as the "forum" in the so-called network news reader or the personal computer communications.

(0055)

In the viewer shown in Figure 2, the function of a lattice-like arrangement of the icons can be used in all software that displays the icons.

(0056)

An explanation has been given in this example in the case where the HTML data is displayed. However, this invention can be used even in the case where data other than the HTML data is displayed.

(0057)

In this example, moreover, display is made in such a manner that the HTML data is reproduced after same has once been recorded. However, it is possible to display the HTML data as it is, without recording same.

(0058)

The viewer and the monitor 9 have been set up as separate devices in this example. However, these can be constituted as one single body.

(0059)

In this example, moreover, the icons are arranged like a lattice. However, the icons may be arranged in some other shape.

(0060)

(Effect of the Invention)

According to the display control device and the display control method according to this invention, the resolution degree of a display means which is capable of displaying the images based on the television broadcast is detected and a prescribed data is thinned in conformity with the said resolution degree, with a result that it becomes possible to display the prescribed data on the display means.

(Concise Explanation of the Drawings)

(Figure 1)

This is a block diagram showing the structure of an example of a reproduction device incorporating this inven-

tion.

(Figure 2)

This is a block diagram showing an example of the structure comprising a data processing circuit 3, a thinning circuit 4 and a display circuit 5 (viewer) in Figure 1.

(Figure 3)

This shows an example of the display on monitor 9.

(Figure 4)

This shows a cursor key for moving the cursor.

(Figure 5)

This shows the structure of an example of a broadcast system incorporating this invention.

(Figure 6)

This is a block diagram showing an example of the structure of the receiving device 82 in Figure 5.

(Explanation of the Codes Used)

1. Recording medium
2. Reproducing part
3. Data processing circuit
4. Thinning circuit
5. Display circuit
6. Detecting circuit
7. Operating part
8. Control circuit
9. Monitor
21. Input information deciding part
22. Layout correcting part
23. Monitor attribute information memory part
24. Item selecting part
25. Set information memory part
31. Image thinning part

- 32. Text preparing part
- 41. Image preparing part

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(Translator's Note: Insert Figure 1 on p. 7. 1. Memory medium. 2. Reproducing part. 3. Data processing circuit. 4. Thinning circuit. 5. Display circuit. 6. Detection circuit. a. Internet. b. HTML data. c. (Translator's Note: Unclear but look like) Video text. d. Monitor attribute information. r. (Translator's Note: Four characters are illegible). f. Corrected layout information, and (Translator's Note: four characters are illegible) information. A. Reproducing Device.)

(Translator's Note: Insert Figure 2 on p. 7. 21. Input information deciding part. 25. Set information memory part. 24. Item selecting part. 22. Layout correcting part. 23. Monitor attribute information memory part. 31. Video thinning part. 32. Text producing part. 41. Display image preparing part. a. Set information. b. HTML data. c. Monitor attribute information. d. Item information. e. Layout information. f. Video data. g. Text data. h. Item selection information. i. Corrected layout information. j. Data processing circuit 3. k. Video data. m. Text data thinning circuit 4. n. To the monitor. o. Display circuit 5. p. Viewer.)

(Translator's Note: Insert Figure 3 on p. 8. a. HTML viewer. b. Icon. c. Cursor.)

(Translator's Note: Insert Figure 4 on p. 8. Cursor key 81.)

(Translator's Note: Insert Figure 5 on p. 8. a. Internet. b. Video signal. c. HTML data. d. Audio sig-

nal. e. Broadcast station. f. User. 71. Server. 72. Mixer. 73. Modulator. 74. Transmitter. 75. Antenna. 81. Antenna. 82. Receiving device. 83. Monitor. 84. Recording medium. 85. Reproducing device.)

(Translator's Note: Insert Figure 6 on p. 8. 85. Reproducing device. 83. To the monitor. 84. Recording medium. 82. Receiving device. 91. Tuner. 93. Control circuit. 94. Operating part. 95. Data decoder. 96. Data storage controller. a. From the antenna 11. b. To the monitor 83.)